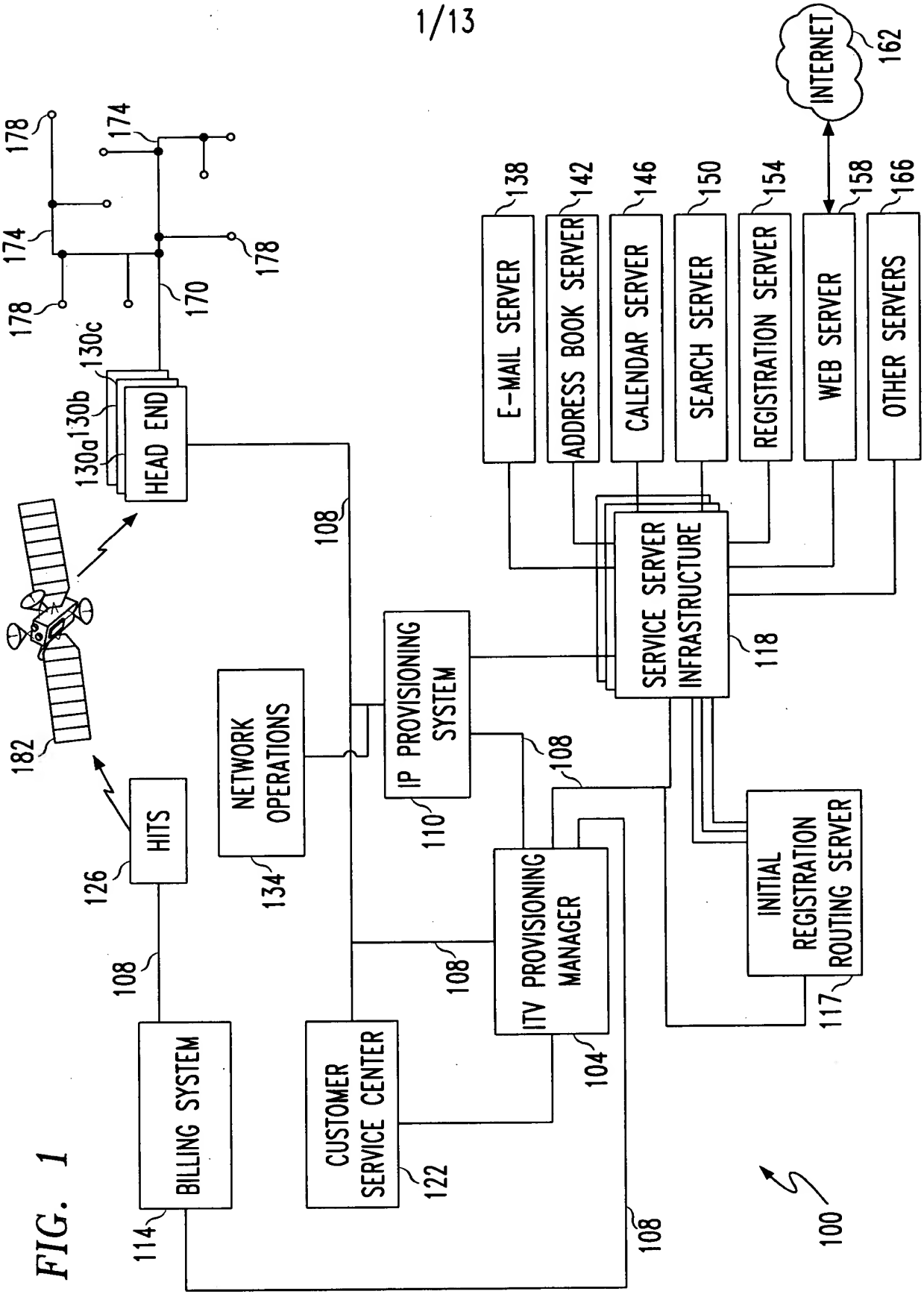
INTERNET
162
E-MAIL SERVER
138
ADDRESS BOOK SERVER
142
CALENDAR SERVER
146
SEARCH SERVER
150
REGISTRATION SERVER
154
WEB SERVER
158
OTHER SERVERS
166
SERVICE SERVER INFRASTRUCTURE
118
IP PROVISIONING SYSTEM
110
NETWORK OPERATIONS
134
ITV PROVISIONING MANAGER
104
INITIAL REGISTRATION ROUTING SERVER
117
HEAD END
130a
130b
130c
170
174
178
182
HITS
126
BILLING SYSTEM
114
CUSTOMER SERVICE CENTER
122
108
100

FIG. 1

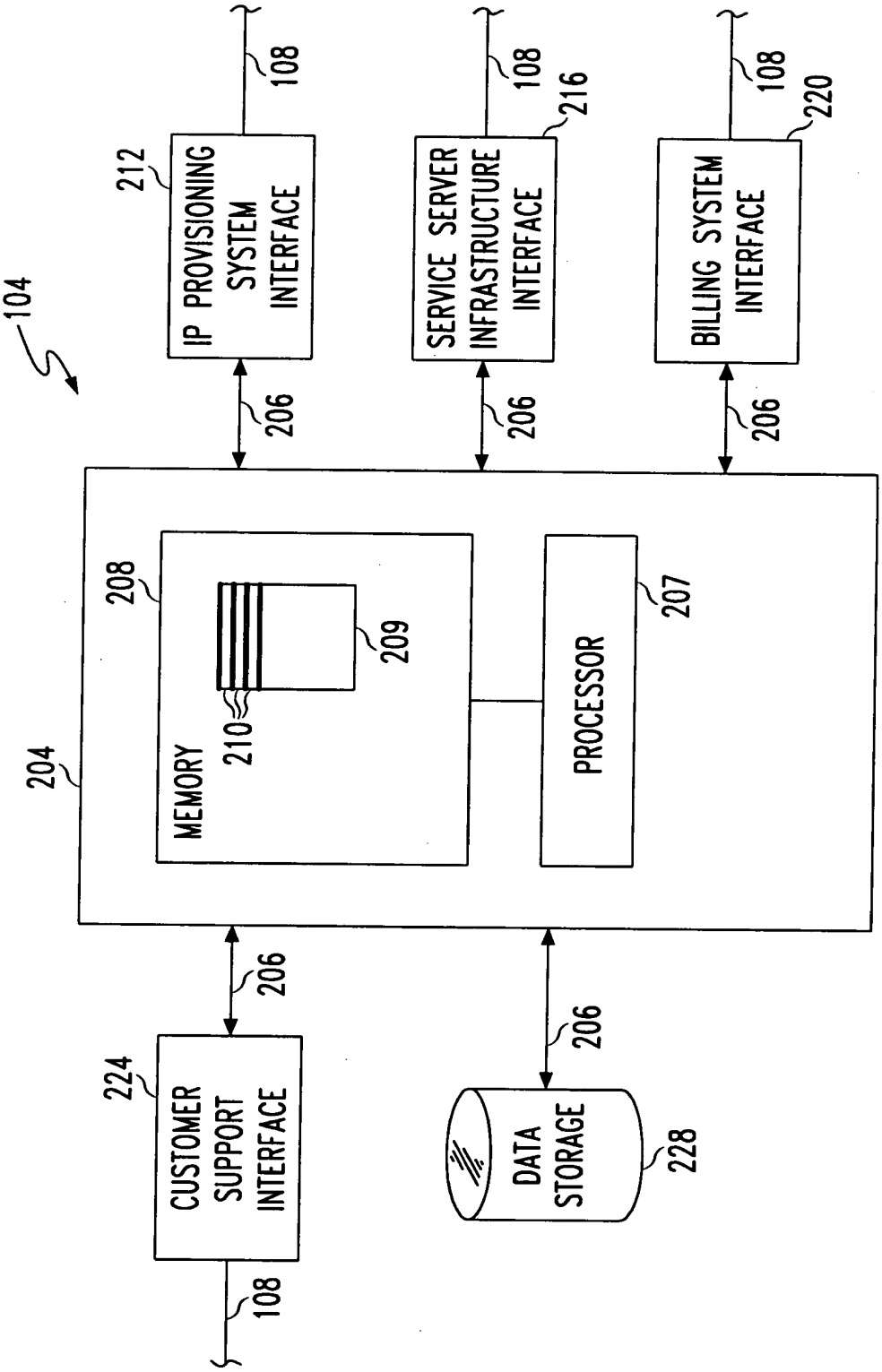
104
IP PROVISIONING SYSTEM INTERFACE
212
108
206
SERVICE SERVER INFRASTRUCTURE INTERFACE
216
108
206
BILLING SYSTEM INTERFACE
220
108
206
204
MEMORY
208
209
210
PROCESSOR
207
206
CUSTOMER SUPPORT INTERFACE
224
108
206
DATA STORAGE
228

FIG. 2

ELEMENT	FORMAT	SIZE	DESCRIPTION
SUBSCRIBER_ID	NUMERIC		CSG ASSIGNED UNIQUE ITV KEY IDENTIFYING A SUBSCRIBER/ACCOUNT.
SUBSCRIBER_STATE	LITERAL	10	SUBSCRIBER ACCOUNT STATE (ACTIVE, SUSPENDED)
SUBSCRIBER.NAME.LAST	ALPHA		SUBSCRIBER'S LAST NAME
SUBSCRIBER.NAME.FIRST	ALPHA		SUBSCRIBER'S FIRST NAME
SUBSCRIBER.ADDRESS.STREET1	A/N		SUBSCRIBER'S RESIDENCE STREET1
SUBSCRIBER.ADDRESS.STREET2	A/N		SUBSCRIBER'S RESIDENCE STREET2
SUBSCRIBER.ADDRESS.CITY	A/N		SUBSCRIBER'S RESIDENCE CITY
SUBSCRIBER.ADDRESS.STATE	A/N	2	SUBSCRIBER'S RESIDENCE STATE
SUBSCRIBER.ADDRESS.ZIP	A/N	10	SUBSCRIBER'S RESIDENCE POSTAL ZIP CODE
SUBSCRIBER.HEADEND.ID	A/N		IDENTIFIER SPECIFYING TO WHICH HEADEND A SUBSCRIBER IS CONNECTED
SUBSCRIBER.HEADEND.NODE	A/N		IDENTIFIES TO WHICH NODE ON A HEADEND A SUBSCRIBER IS CONNECTED
SUBSCRIBER.SERVICE.TYPE	A/N	16	A SUBSCRIBER SERVICE TYPE
SUBSCRIBER.SERVICE.LEVEL	A/N	16	A SUBSCRIBER SERVICE LEVEL
SERVICE_GROUP	NUMERIC		THE SERVICE SERVER INFRASTRUCTURE DEFINED SERVICE GROUP ASSOCIATED WITH THE SUBSCRIBER
MSTV_SUBSCRIBER_ID	NUMERIC		THE SERVICE SERVER INFRASTRUCTURE DEFINED UNIQUE KEY ASSOCIATE WITH THE SUBSCRIBER

FIG. 3

ELEMENT	FORMAT	SIZE	DESCRIPTION
USER_ID	NUMERIC		ITV PM UNIQUE KEY IDENTIFYING A USER
USER_STATE	LITERAL	10	USER STATE (ACTIVE, SUSPENDED)
USER.TYPE	LITERAL	10	TYPE OF USER (MASTER, HOUSEHOLD, NORMAL)
USER.NAME.LAST	ALPHA		USER'S LAST NAME
USER.NAME.FIRST	ALPHA		USER'S FIRST NAME
USER.ALIAS	ALPHA		USER'S ALIAS (E.G. "DAD", "MOM") WHICH MUST BE UNIQUE ONLY WITHIN A HOUSEHOLD/SUBSCRIBER
USER.PIN	NUMERIC	8	USER'S PERSONAL IDENTIFICATION NUMBER WHICH IS USED FOR AUTHENTICATION WITH THE ITV SYSTEM
USER.EMAIL.ID	A/N		USER'S EMAIL ADDRESS, FULLY QUALIFIED (E.G. SMITH@ATT.NET)
USER.EMAIL.PASSWORD	A/N		USER'S EMAIL PASSWORD, USED TO AUTHENTICATE WITH MAIL AND RELATED SERVICES
USER.CALENDAR.ID	A/N		USER'S CALENDAR ID. FOR FCS THIS WILL BE THE SAME AS EMAIL ID
USER.CALENDAR.PASSWORD	A/N		USER'S CALENDAR PASSWORD, USED TO AUTHENTICATE WITH THE CALENDAR SERVICE
USER.ADDRESS_BOOK.ID	A/N		UNIQUE ADDRESS BOOK IDENTIFIER
USER.SERVICE.TYPE	A/N	16	A SUBSCRIBER SERVICE TYPE
USER.SERVICE.LEVEL	A/N	16	A SUBSCRIBER SERVICE LEVEL
MSTV_USER_ID	NUMERIC		THE SERVICE SERVER INFRASTRUCTURE DEFINED UNIQUE KEY ASSOCIATED WITH THE USER

FIG. 4

B. J. DONLAN 2000-0279

ELEMENT	FORMAT	SIZE	DESCRIPTION
ASTB_ID	A/N		ITV PM UNIQUE SET-TOP BOX KEY
ASTB.UNIT_ADDRESS	A/N		MOTOROLA/GI UNIQUE "UNIT ADDRESS"
ASTB.MAC_ADDRESS	A/N	17	MOTOROLA/GI UNIQUE MAC ADDRESS FOR ASTB CPE
MSTV_DEVICE_ID	NUMERIC		SERVICE SERVER INFRASTRUCTURE DEFINED UNIQUE KEY ASSOCIATED WITH THE STEP-TOP BOX

FIG. 5

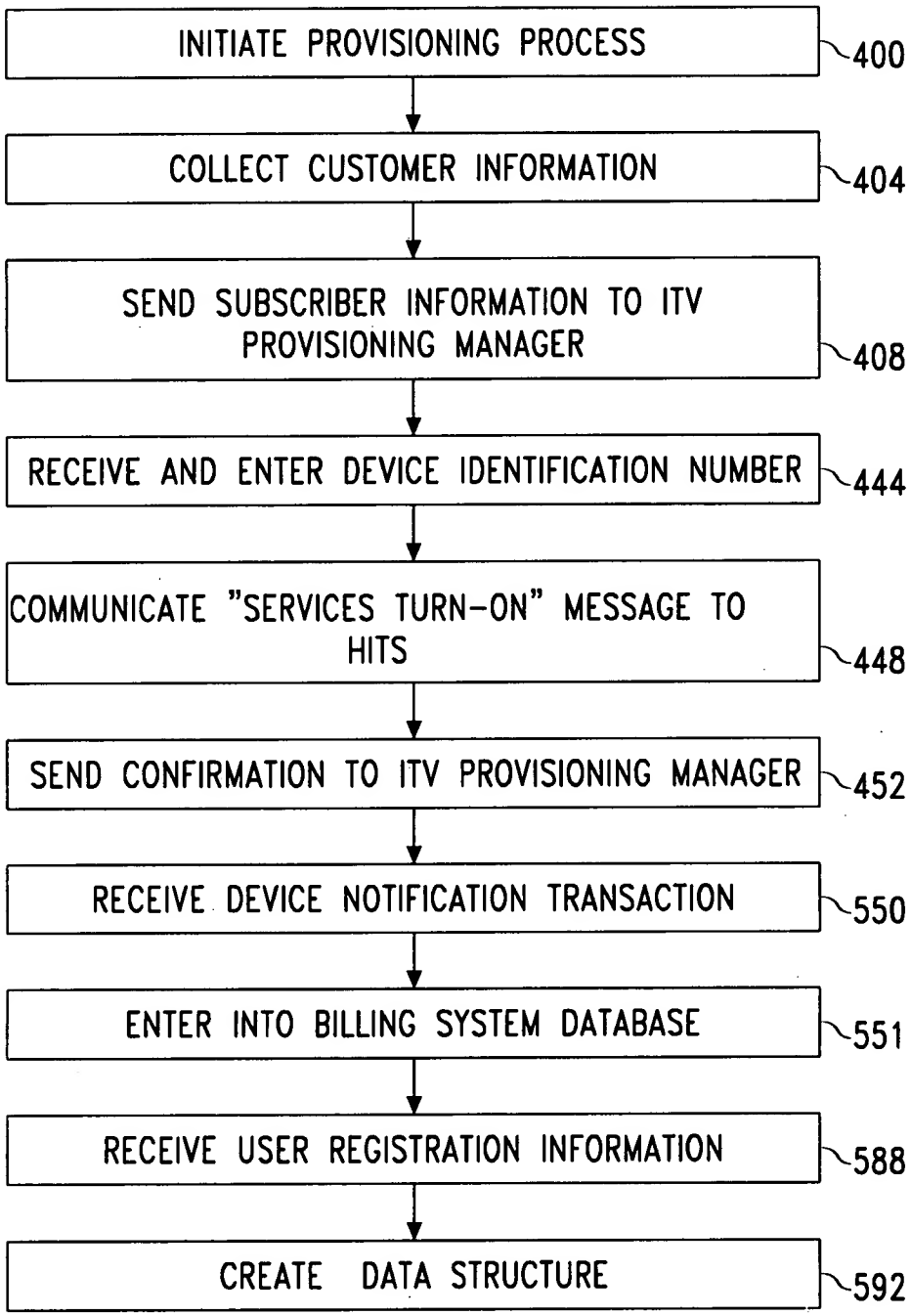
INITIATE PROVISIONING PROCESS
400
COLLECT CUSTOMER INFORMATION
404
SEND SUBSCRIBER INFORMATION TO ITV PROVISIONING MANAGER
408
RECEIVE AND ENTER DEVICE IDENTIFICATION NUMBER
444
COMMUNICATE "SERVICES TURN-ON" MESSAGE TO HITS
448
SEND CONFIRMATION TO ITV PROVISIONING MANAGER
452
RECEIVE DEVICE NOTIFICATION TRANSACTION
550
ENTER INTO BILLING SYSTEM DATABASE
551
RECEIVE USER REGISTRATION INFORMATION
588
CREATE DATA STRUCTURE
592

FIG. 6

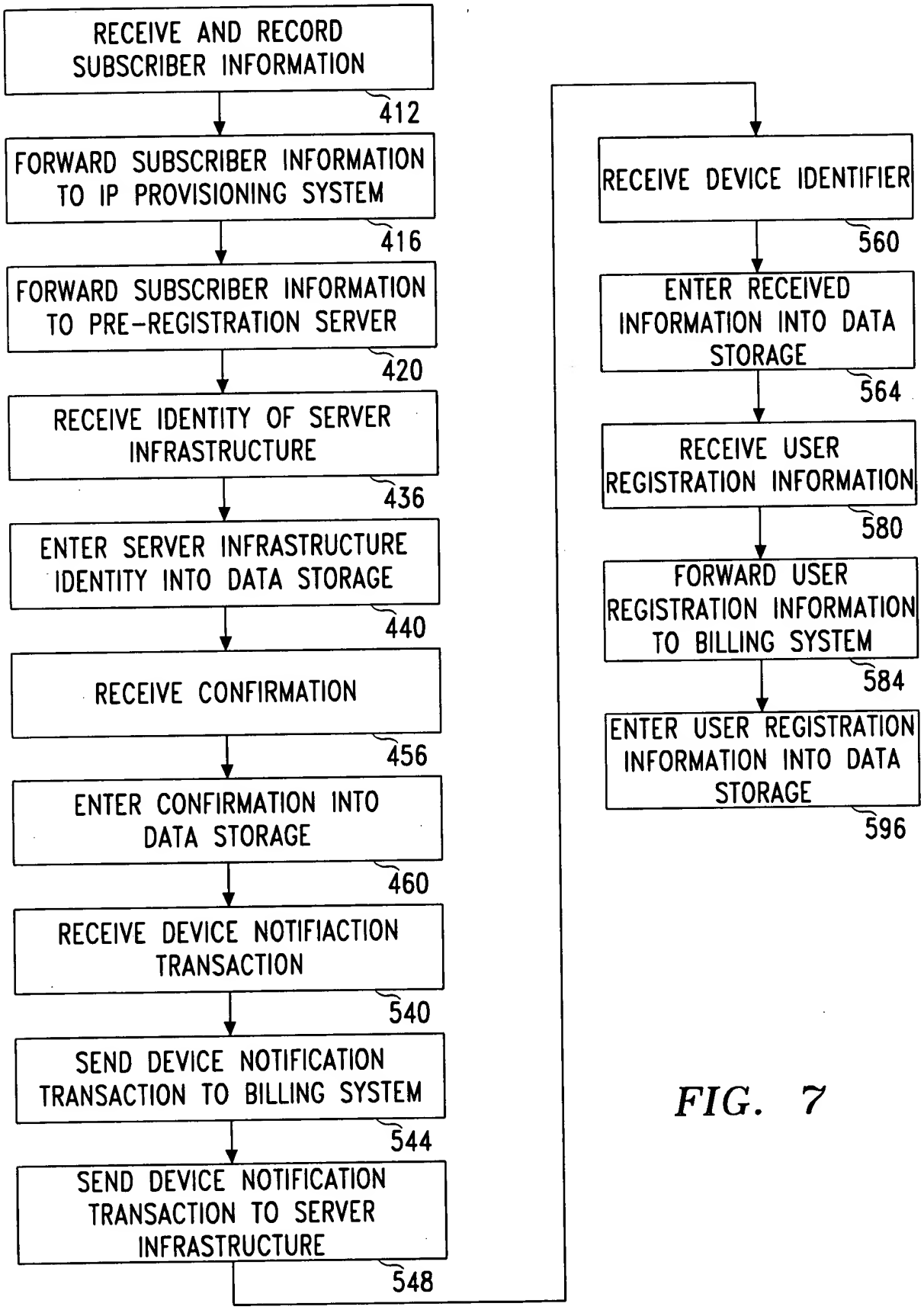
RECEIVE AND RECORD SUBSCRIBER INFORMATION
412
FORWARD SUBSCRIBER INFORMATION TO IP PROVISIONING SYSTEM
416
FORWARD SUBSCRIBER INFORMATION TO PRE-REGISTRATION SERVER
420
RECEIVE IDENTITY OF SERVER INFRASTRUCTURE
436
ENTER SERVER INFRASTRUCTURE IDENTITY INTO DATA STORAGE
440
RECEIVE CONFIRMATION
456
ENTER CONFIRMATION INTO DATA STORAGE
460
RECEIVE DEVICE NOTIFIACTION TRANSACTION
540
SEND DEVICE NOTIFICATION TRANSACTION TO BILLING SYSTEM
544
SEND DEVICE NOTIFICATION TRANSACTION TO SERVER INFRASTRUCTURE
548
RECEIVE DEVICE IDENTIFIER
560
ENTER RECEIVED INFORMATION INTO DATA STORAGE
564
RECEIVE USER REGISTRATION INFORMATION
580
FORWARD USER REGISTRATION INFORMATION TO BILLING SYSTEM
584
ENTER USER REGISTRATION INFORMATION INTO DATA STORAGE
596

FIG. 7

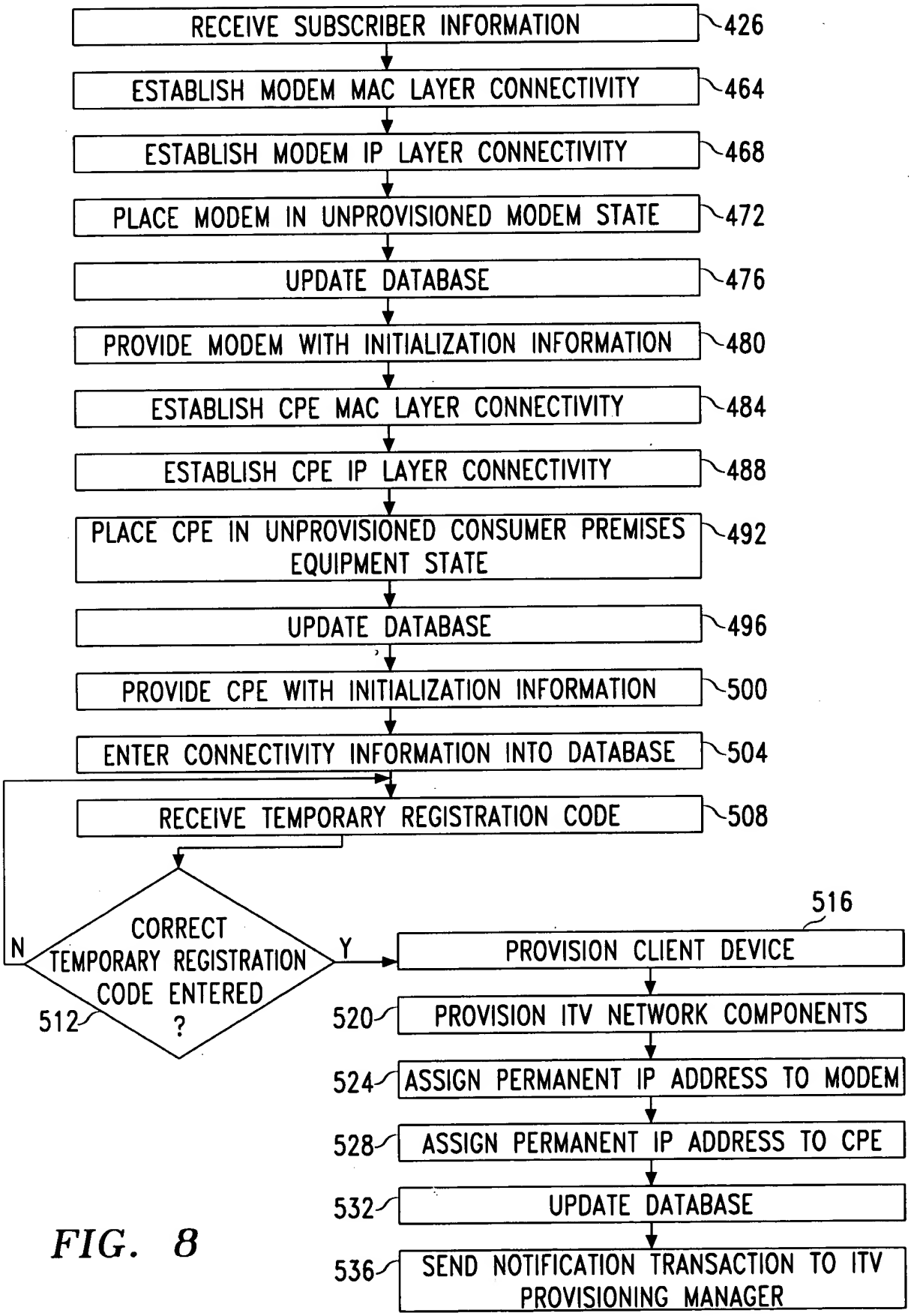
RECEIVE SUBSCRIBER INFORMATION
426
ESTABLISH MODEM MAC LAYER CONNECTIVITY
464
ESTABLISH MODEM IP LAYER CONNECTIVITY
468
PLACE MODEM IN UNPROVISIONED MODEM STATE
472
UPDATE DATABASE
476
PROVIDE MODEM WITH INITIALIZATION INFORMATION
480
ESTABLISH CPE MAC LAYER CONNECTIVITY
484
ESTABLISH CPE IP LAYER CONNECTIVITY
488
PLACE CPE IN UNPROVISIONED CONSUMER PREMISES EQUIPMENT STATE
492
UPDATE DATABASE
496
PROVIDE CPE WITH INITIALIZATION INFORMATION
500
ENTER CONNECTIVITY INFORMATION INTO DATABASE
504
RECEIVE TEMPORARY REGISTRATION CODE
508
CORRECT TEMPORARY REGISTRATION CODE ENTERED ?
512
N
Y
516
PROVISION CLIENT DEVICE
520
PROVISION ITV NETWORK COMPONENTS
524
ASSIGN PERMANENT IP ADDRESS TO MODEM
528
ASSIGN PERMANENT IP ADDRESS TO CPE
532
UPDATE DATABASE
536
SEND NOTIFICATION TRANSACTION TO ITV PROVISIONING MANAGER

FIG. 8

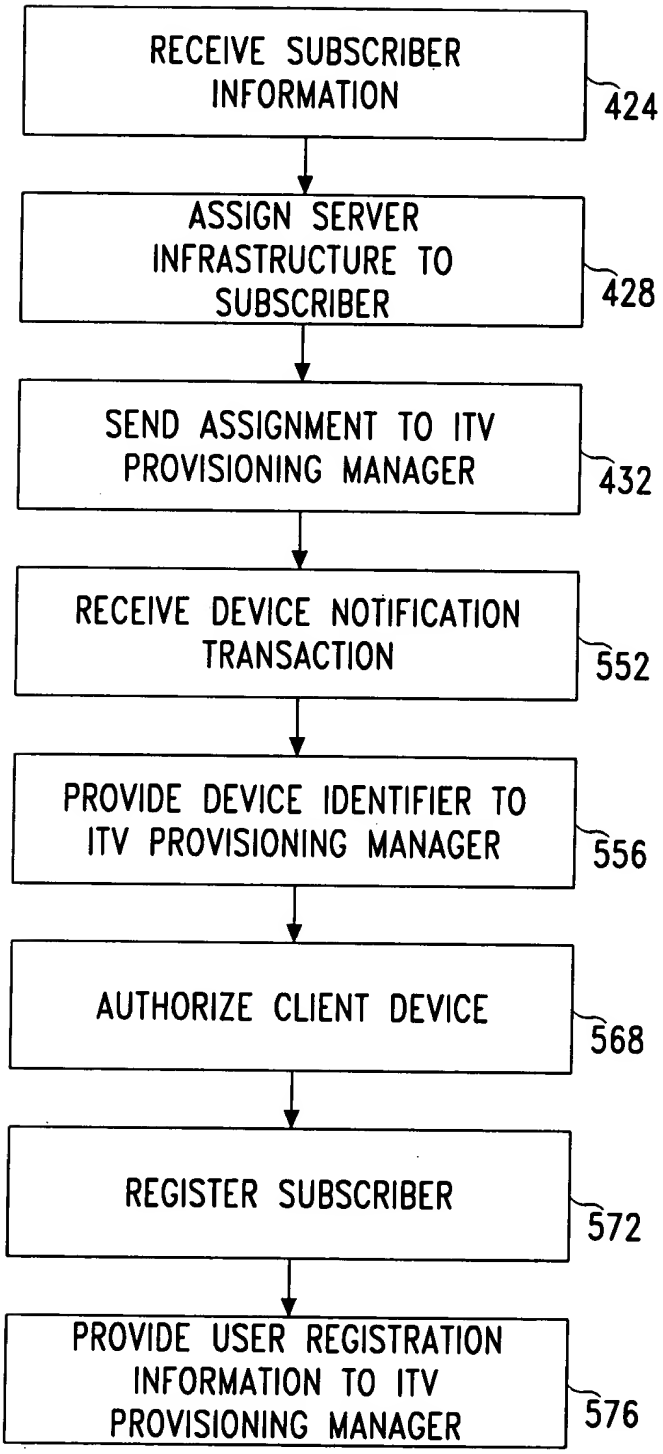
RECEIVE SUBSCRIBER INFORMATION
424
ASSIGN SERVER INFRASTRUCTURE TO SUBSCRIBER
428
SEND ASSIGNMENT TO ITV PROVISIONING MANAGER
432
RECEIVE DEVICE NOTIFICATION TRANSACTION
552
PROVIDE DEVICE IDENTIFIER TO ITV PROVISIONING MANAGER
556
AUTHORIZE CLIENT DEVICE
568
REGISTER SUBSCRIBER
572
PROVIDE USER REGISTRATION INFORMATION TO ITV PROVISIONING MANAGER
576

FIG. 9

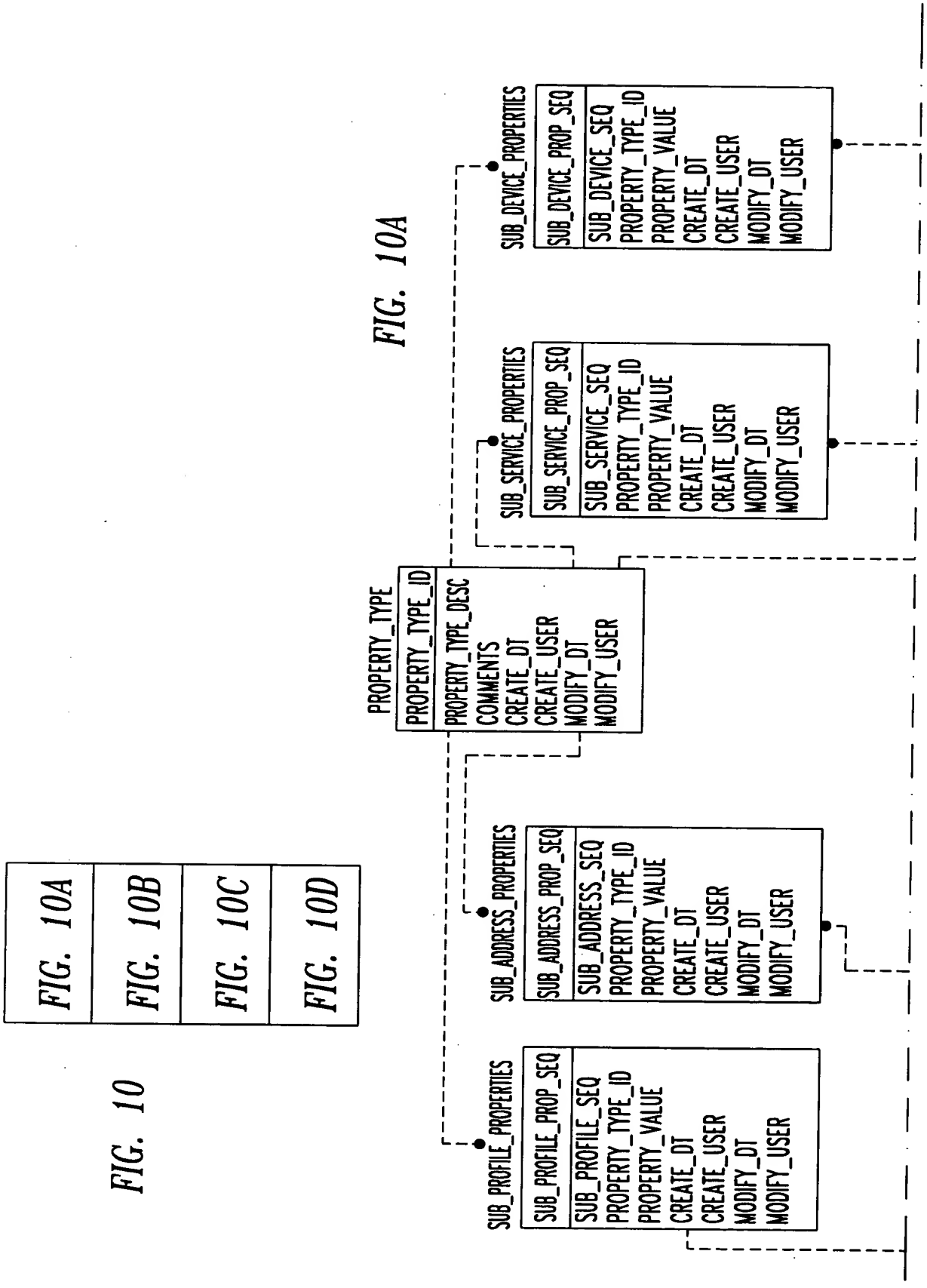

FIG. 10A

FIG. 10

FIG. 10A	FIG. 10B
FIG. 10C	FIG. 10D

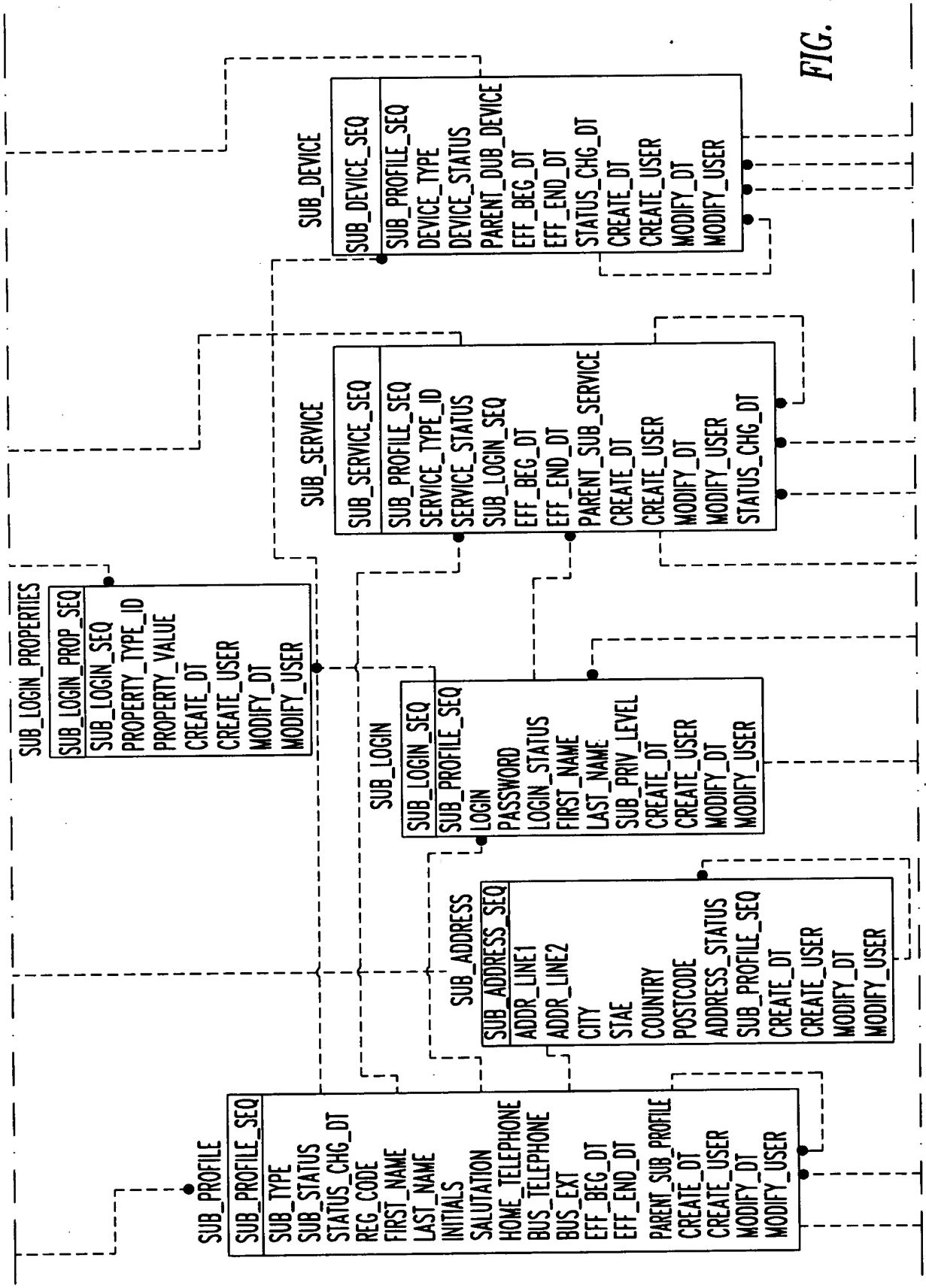
SUB_DEVICE
SUB_DEVICE_SEQ
SUB_PROFILE_SEQ
DEVICE_TYPE
DEVICE_STATUS
PARENT_DUB_DEVICE
EFF_BEG_DT
EFF_END_DT
STATUS_CHG_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_SERVICE
SUB_SERVICE_SEQ
SUB_PROFILE_SEQ
SERVICE_TYPE_ID
SERVICE_STATUS
SUB_LOGIN_SEQ
EFF_BEG_DT
EFF_END_DT
PARENT_SUB_SERVICE
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
STATUS_CHG_DT
SUB_LOGIN_PROPERTIES
SUB_LOGIN_PROP_SEQ
SUB_LOGIN_SEQ
PROPERTY_TYPE_ID
PROPERTY_VALUE
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_LOGIN
SUB_LOGIN_SEQ
SUB_PROFILE_SEQ
LOGIN
PASSWORD
LOGIN_STATUS
FIRST_NAME
LAST_NAME
SUB_PRIV_LEVEL
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_ADDRESS
SUB_ADDRESS_SEQ
ADDR_LINE1
ADDR_LINE2
CITY
STAE
COUNTRY
POSTCODE
ADDRESS_STATUS
SUB_PROFILE_SEQ
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_PROFILE
SUB_PROFILE_SEQ
SUB_TYPE
SUB_STATUS
STATUS_CHG_DT
REG_CODE
FIRST_NAME
LAST_NAME
INITIALS
SALUTATION
HOME_TELEPHONE
BUS_TELEPHONE
BUS_EXT
EFF_BEG_DT
EFF_END_DT
PARENT_SUB_PROFILE
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER

FIG. 10B

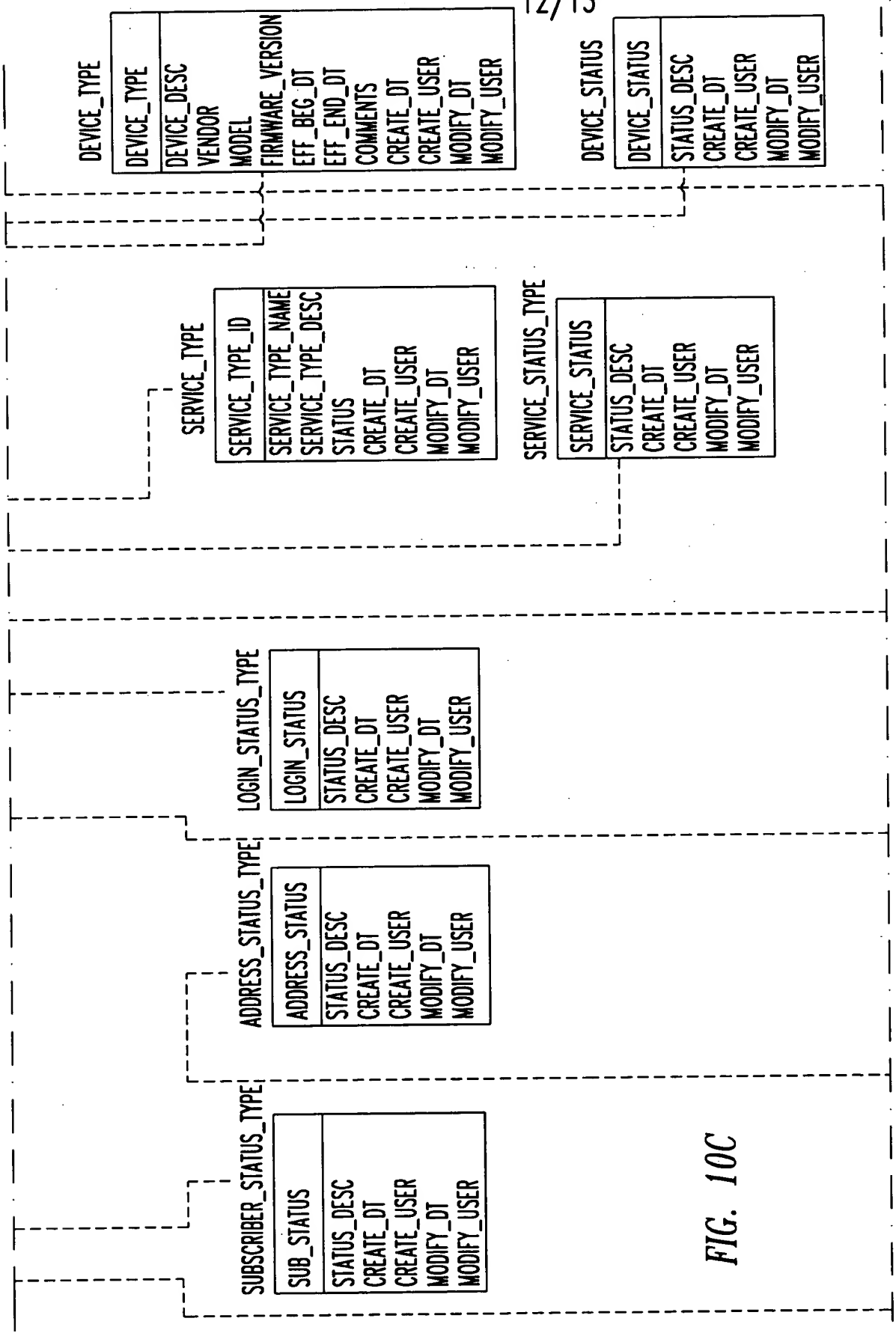
DEVICE_TYPE
DEVICE_TYPE
DEVICE_DESC
VENDOR
MODEL
FIRMWARE_VERSION
EFF_BEG_DT
EFF_END_DT
COMMENTS
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
DEVICE_STATUS
DEVICE_STATUS
STATUS_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SERVICE_TYPE
SERVICE_TYPE_ID
SERVICE_TYPE_NAME
SERVICE_TYPE_DESC
STATUS
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SERVICE_STATUS_TYPE
SERVICE_STATUS
STATUS_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
LOGIN_STATUS_TYPE
LOGIN_STATUS
STATUS_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
ADDRESS_STATUS_TYPE
ADDRESS_STATUS
STATUS_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUBSCRIBER_STATUS_TYPE
SUB_STATUS
STATUS_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER

FIG. 10C

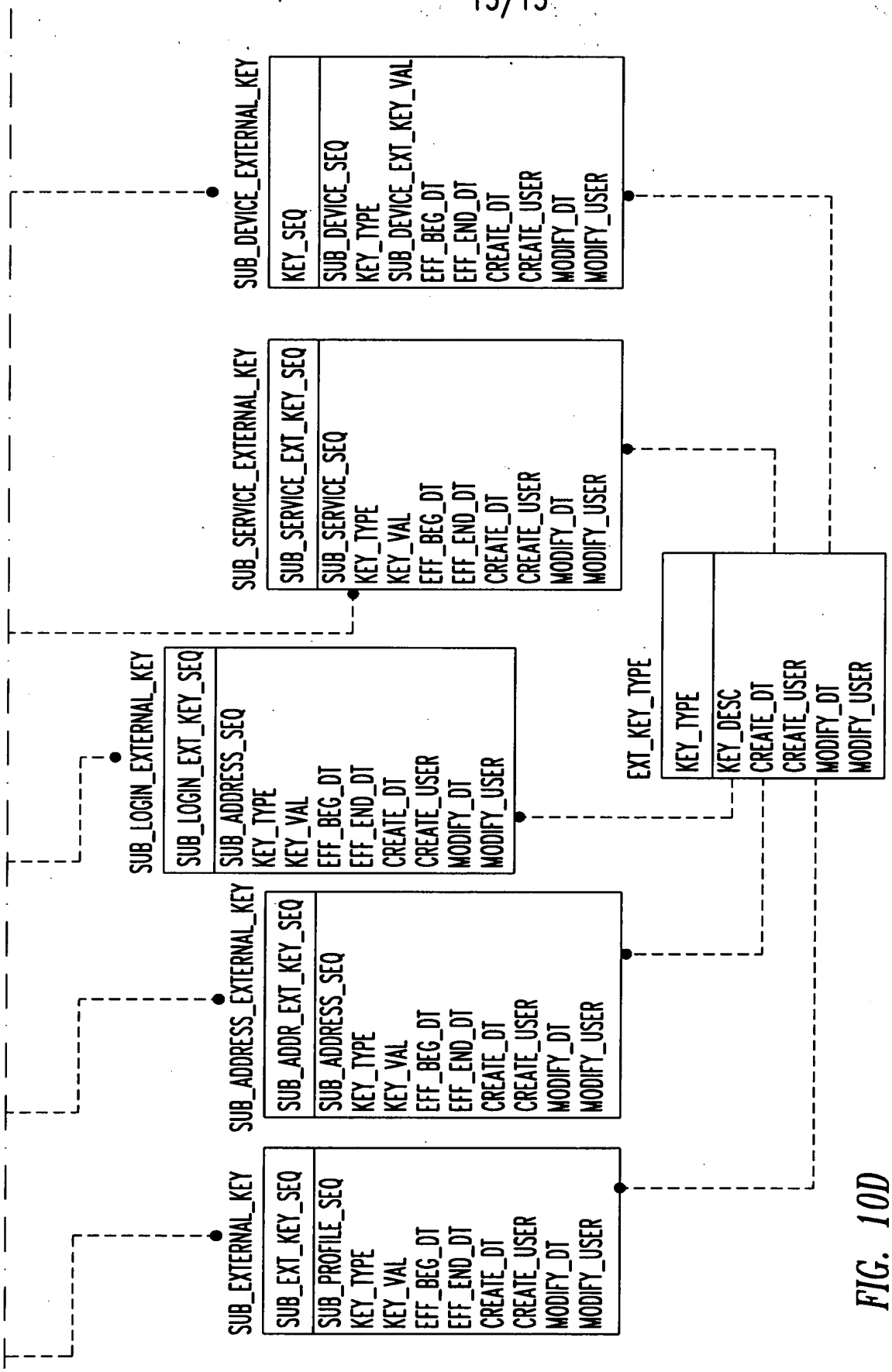
SUB_DEVICE_EXTERNAL_KEY
KEY_SEQ
SUB_DEVICE_SEQ
KEY_TYPE
SUB_DEVICE_EXT_KEY_VAL
EFF_BEG_DT
EFF_END_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_SERVICE_EXTERNAL_KEY
SUB_SERVICE_EXT_KEY_SEQ
SUB_SERVICE_SEQ
KEY_TYPE
KEY_VAL
EFF_BEG_DT
EFF_END_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_LOGIN_EXTERNAL_KEY
SUB_LOGIN_EXT_KEY_SEQ
SUB_ADDRESS_SEQ
KEY_TYPE
KEY_VAL
EFF_BEG_DT
EFF_END_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
EXT_KEY_TYPE
KEY_TYPE
KEY_DESC
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_ADDRESS_EXTERNAL_KEY
SUB_ADDR_EXT_KEY_SEQ
SUB_ADDRESS_SEQ
KEY_TYPE
KEY_VAL
EFF_BEG_DT
EFF_END_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER
SUB_EXTERNAL_KEY
SUB_EXT_KEY_SEQ
SUB_PROFILE_SEQ
KEY_TYPE
KEY_VAL
EFF_BEG_DT
EFF_END_DT
CREATE_DT
CREATE_USER
MODIFY_DT
MODIFY_USER

FIG. 10D